UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/379,729	08/24/1999	CAMERON BOLITHO BROWNE	169.1416	1640

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EXAMINER
GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
2672	24

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 October 2003</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   This office action is responsive to the following communications: application,

filed on 08/24/1999; IDS, paper #4, filed on 01/18/2000; Priority, filed on 11/12/1999;

Election, filed on 07/30/2001; Amendment A, filed on 04/01/2002; Amendment B, filed

09/24/2002; Supplementary Amendment C, filed 02/26/2003; Amendment D, filed

10/02/2003.

This action is made final.

2.   Claims 1-60 are pending in this application. Claims 1, 18, 34 and 52-57 are

independent claims. Claims 58-60 have been added.

3.   The title of the application is "Method and Apparatus for Transforming a set of

Closed Curves" (as originally filed).

Allowable Subject Matter

5.   The indicated allowability of claims 7, 10, 15, 16, 24, 27, 32-33, 41, 44 and 49-50

is withdrawn in view of the newly discovered reference(s) to Beall, Inside AutoCAD 14,

chapters 16 and 17. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed
publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7.   Claims 1-60 are rejected under 35 U.S.C. 102(a) as being anticipated by Beall et

al., Inside AutoCAD 14, July 1997, chapters 16-17.

As per independent claim 1, a method for generating a graphical object

comprising a plurality of closed loops . . . comprising the steps of: a providing step of

providing a set of continuous second curves lying on the surface . . . second curves

contains no self-crossover points; (Beall discloses on page 4, defining the area for

hatching, as an area with a series of lines that cross over and does not meet, chapter

17, page 4) a first determining step of determining a set of intersection points, wherein

the intersection point are points where the one or more closed first curves intersect . . .

(Beall discloses defining a area to be filled as the boundary objects and selecting

objects to define the area to be hatch having points that define the area, chapter 17,

page 4) a second determining step of determining a set of crossover points within the

set of intersection points (Beall discloses defining an area with cross over each other

and defining the area as a boundary object, chapter 17, page 4) an assembling step of

assembling the plurality of closed loops from curve intervals . . . whereby the plurality of

closed loops abuts a substantial portion of the boundary of the surface; (Beall discloses

defining the hatch boundaries, chapter 17, page 4) and a filling step of filling the plurality

of closed loops with a fill to produce the graphical object. (Beall discloses filling in areas

with hatch patterns, chapter 17, page 6)

With respect to dependent claims 2, 19 and 36, an ordering substep of ordering

the set of crossover points in accordance with a predetermined order; a first marking

substep of marking one of the points that is highest in the order and that has not been previously marked; a determining substep of determining if a last marked point is a first point in a closed loop and if so performing: a first selecting substep of selecting a curve interval starting at the first point and terminating at an unmarked crossover point; a second marking substep of marking the terminating crossover point of the selected curve interval; or if not performing: a second selecting substep of selecting a curve interval starting at the previous terminating crossover point . . . ; and a third marking substep of marking the current terminating crossover point of the selected curve interval; a first repetition substep . . . ; and a second repetition substep . . . (Beall discloses islands which are enclosed areas within the overall area to be hatched, chapter 17, pages 5-6, and discloses the hatch area may be represented by a single polyline or region, and discloses an explode command which remove the associativity of the object and replaces it with group of line objects that make up the pattern, chapter 17, page 8. Beall further discloses choose pick points to delineate the hatch area where boundary objects are defined or the area to be filled, chapter 17, page 4)

With respect to dependent claims 3, 20 and 37, determined in determining substep that the last marked crossover point is a first point in a closed loop, the curve interval is selected from the set of one or more closed first curves . . . continues in a first direction, and terminates at a next adjacent unmarked crossover point. (Beall discloses enclosed areas within an overall area to be hatched or islands, and further discloses alternating bands of hatching, chapter 17, page 5)

With respect to dependent claims 4, 21 and 38, determined in said determining substep that the last marked crossover point is not a first point in a closed loop, the curve interval is selected from the set of one or more closed first curves . . . first curve interval encountered around the last marked crossover point in a second direction starting from the previously selected curve interval . . . (Beall discloses normal default style of hatching, which uses alternating bands of hatching, chapter 17, page 5)

With respect to dependent claims 5, 22 and 39, ordering the crossover points according to their position along the set of one or more closed first curves in a fourth direction. (Beall discloses overlapping with the outer style using pick points 1 and pick point 2 to hatch the areas enclosed, chapter 17, page 5)

With respect to dependent claims 6, 23, 24 and 40, the first and fourth direction are in the forward direction, the third direction is either positive or negative, and the second direction is in the same direction as a backward direction. (Beall discloses normal default style of hatching, which uses alternating bands of hatching, chapter 17, page 5)

With respect to dependent claims 8, 25 and 42, the surface is 2-dimensional surface. (Beall discloses defining a specific area, page 2)

With respect to dependent claims 9, 26 and 43, the surface is 3-dimensional surface. (Beall discloses a 3D solid model, chapter 17, page 6)

With respect to dependent claim 10, 27 and 44, filling step comprises filling the plurality of closed loops with a predetermined color. (Beall discloses a fill mode to fill an area with a color, chapter 17, page 9)

With respect to dependent claims 11, 28 and 45, providing a set of continuous second curves, comprises the substep of generating the set of continuous second curves. (Beall discloses delineating areas with temporary polylines, chapter 17, page 6)

With respect to dependent claims 12, 29 and 46, providing a set of continuous second curves, comprises the substep of accessing the set of continuous second curves from storage. (Beall discloses hatch pattern files stored in individual files, chapter 17, page 4)

With respect to dependent claims 13, 30 and 47, providing a set of continuous second curves, comprises the substep of selecting one of a plurality of sets of continuous second curves in response to user input. (Beall discloses selecting a hatch pattern, chapter 17, page 7)

With respect to dependent claim 14, 31 and 48, generating substep comprises inputting parameters. (Beall discloses picking points to delineate the hatch area, chapter 17, page 4)

With respect to dependent claim 15, input parameters comprise one or more of the following: base shapes of the continuous second curves, a period of the continuous second curves, and an amplitude of the continuous second curves. (Beall discloses the hatch area is drawn with the line type setting for the hatch pattern, page 3)

With respect to dependent claim 16, amplitude of the continuous second curves varies throughout. (Beall discloses a scale setting to vary the width of the hatch pattern line type within the pattern, page 3)

With respect to dependent claim 17, 34 and 51, one or more closed first curves constitutes a character glyph of a font. (Beall discloses the hatch pattern files are ASCII files and can be added to create one's own file and that the hatch pattern consists of parallel pattern lines, page 10)

As per independent claim 18, Beall discloses an apparatus (computer) for performing the method of claim 1. Therefore the rationale as applied to claim 1 is included herein.

As per independent claim 35, Beall discloses a program (AutoCAD) for performing the method of claim 1. Therefore the rationale as applied to claim 1 is included herein.

As per independent claims 52-60, they are rejected based upon similar rational as above independent claim 1.

Response to Arguments

8.   Applicant's arguments filed 10/02/2003 have been fully considered but they are not persuasive.

Applicant argues that Beall fails to disclose providing a set of continuous second curves on a surface defined by a set of one or more closed first curves. Beall discloses filling an area with a repetitive pattern, page 1, and therefore it is the Examiner's position that the continuous second curves on the surface represent a repetitive pattern of the set of first curves. Applicant argues that Beall fails to disclose determining

intersection points and crossover points from points where the first curves intersect the

second curves and assembling closed loops form curve intervals by the crossover

points. Beall discloses defining the hatch boundaries after a pattern has been selected

the area to be filled, page 4. Beall discloses the area to be filled completely enclosed

by one or more objects, which Examiner interprets as determining intersection points,

Beall further discloses each area to be filled is defined with several lines and an arc that

cross over and do not meet, page 4.

Applicant argues that Beall fails to disclose the modification of a font, typeface or

character. Beall discloses creating islands in which the enclosed areas within the

overall to be hatched are created with alternating bands of hatching creating an island

with different patterns. Beall further discloses the hatch pattern files are ASCII files and

can be added to create one's own file and that the hatch pattern consists of parallel

pattern lines, page 10, therefore making it inherent that the file can be used for various

shapes including character shapes.

Conclusion

9.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

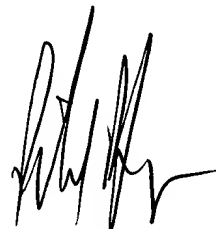than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Motilewa A. Good-Johnson whose telephone number is

(703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM -

5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9314

for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 306-

0377.

Motilewa A. Good-Johnson
Examiner
Art Unit 2672

mgj
December 24, 2003